

### Abstract

The study adopted case study research methodology to evaluate ICT policy use in ten academic and research libraries in Oyo and Ogun States. Convenient sampling method was adopted. The finding showed that only six of the ten academic and research libraries have ICT policy, despite the fact that all of them have procured major ICT facilities. The study also revealed that the existing policies are comprehensive and adequate. However, it was also revealed that the libraries still face challenges in major areas like capital sharing, access, security, ethics, staffing, understanding users' characteristics and need, procedures required for ICT use and benefit maximization.

### Introduction

The term Information and Communications Technology (ICT) evolved from Information Technology (IT) when the processing of information with electronic technology integrated with telecommunications technology. Since then, the evolution has brought about unprecedented and unmatched speed with which information is created, acquired, stored and disseminated. ICTs have also proliferated available media for information storage thereby resulting in enviable gains which were not deemed possible before its advent. Unfortunately, these gains also come with challenges related to cost, maintenance, relevance to users needs and justification of investment on ICT facilities, to mention but a few.

Academic libraries, being the primary hub in the network of information provision for university students, researchers, lecturers, management and other privileged users, have continuously invested heavily on the procurement, maintenance and management of ICT facilities. There is also similar case in research libraries, which are given the mandate to support researchers working in organizations that are primarily engaged in systematic and scientific investigation with a view to discovering new facts with accurate, timely and relevant information (Ifidon and Okili quoted by Oyelude, 2004).

Ochai (2000) portrayed the emerging local ICT scenario in Nigerian academic and research library environment thus:

1. the number of microcomputers in our educational institutions are on the increase.
2. in some universities, computer short courses are being organized for the whole community ranging from typist to professor. This is creating a community of computer literate people.
3. Local Area Networks (LANs) are being created in our Universities and other higher institutions and research institutes with messages, notices of meetings now being sent via the e-mail.
4. complete computer laboratories have been established in some of our libraries and in the faculties thus enabling literary users do literature search using CD-ROM either by themselves or with the assistance of library staff.

This research, therefore, was conducted to find out the availability of functional ICT policy in academic and research libraries in Nigeria using Oyo and Ogun States as case study.

### The Problem

Uhegbu (2001) pointed out that Nigeria's information environment lacks proper coordination in respect of what is appropriate among the various categories of people. He decried that scenarios in Nigeria information environment are mainly characterized by nonexistence of policies. This haphazard nature of the information environment in Nigeria also affects the way things are carried out in major information institutions like academic and research libraries. For instance, Obajemuu, Ogunyade and Nwoye (2004) reported that poor facilities, poor funding, foreign exchange constraints, expertise requirement and apathy constituted barriers to the use of CD-ROM resources in some academic and research libraries in Nigeria. This problem is compounded by such libraries running without ICT policy. This is despite the fact that Spiller (1991) warned that 'No library can be effective without a policy which sets out aims and objectives, identifies user groups and services and indicates priorities among them.'

### Assumption and Objectives

The primary assumption of this paper is that ICT policy, just like collection development policy and other library policies, plays primary role in helping academic and research libraries justify their ICT

investment, coordinate ICT use and improve the ways ICTs are used to achieve library objectives.? The following are the study objectives:

1. to find out those academic and research libraries that have ICT policy and to find out if the policies are documented.
2. to evaluate the adequacy of existing ICT policies or the alternative being used.
3. to find out the extent to which ICT policy determine ICT management.
4. to find out priority areas in ICT policy used in academic and research libraries

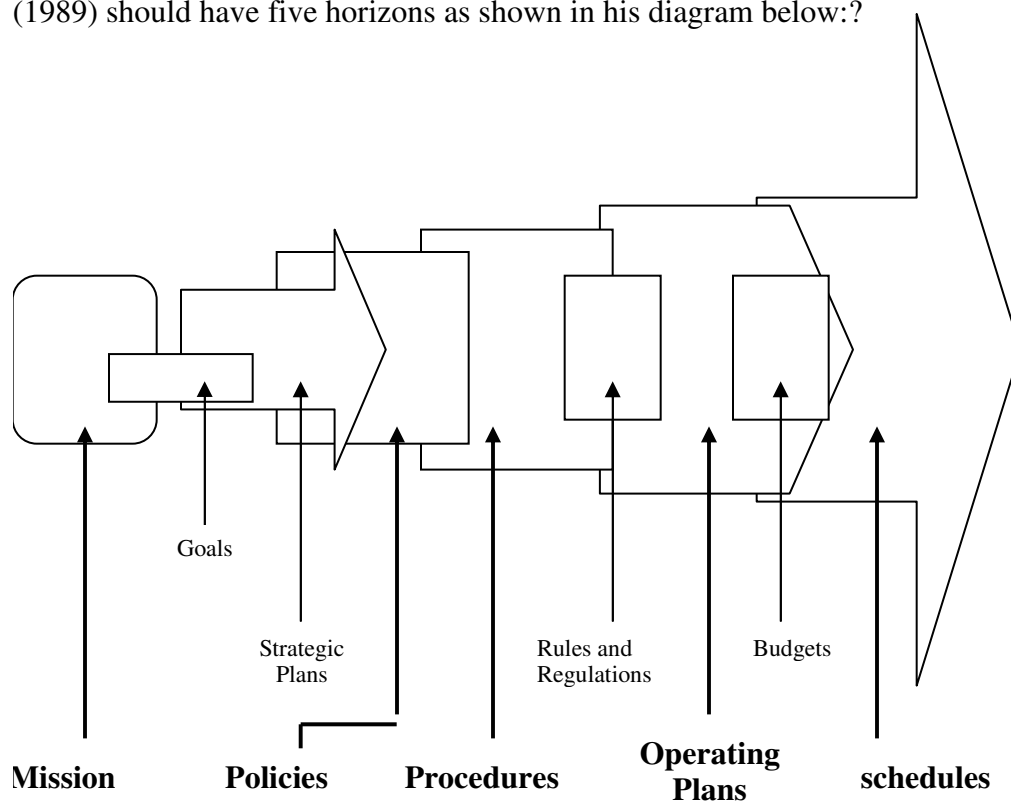
### What is ICT Policy?

A policy is meant to coordinate activities.? It is meant to spell out the whys and hows of the activities for which it is designed. Strassner (2004) defined policy as ?a set of rules?the usage of rules to accomplish decisions.?? Whitten et al (2001) sees policy as rules that governs some processes in business and which serve as the basis for decision making.? Consequently, ICT policy is meant to coordinate and govern the procurement, use, management and maintenance of ICTs as major information management tools in academic and research libraries.?

Oni (2004) pointed out that despite the fact that ICTs can yield unmatched benefits for information outfits, ICT investment ?does not guarantee successful operations in the library environment.?? She proposed six factors which are primary to effective ICT implementation in academic and research libraries: knowledge of recent technological trends; an analysis of library specifications and requirements; a delineation of library goals and objectives; clearly written policy and procedures; management commitment and support; ongoing users? education.? A well written ICT policy will incorporate programs that will take care of all the points raised above.?

### Benefits of ICT Policy

As the quest to better manage information increases, the integration of ICTs into information management operations of academic and research libraries continuously faces various challenges.? The challenges necessitate the development of an ICT strategic plan.? Strategic plans according to Bittel (1989) should have five horizons as shown in his diagram below:?



### Fig 1: Bittel's Plan Model

Academic and research libraries have mission statements from which strategic plans are developed. Policy concretizes, gives guidance and assures consistency with the achievement of strategic plans. As shown above, policy is the foundation upon which operations are built.

Daniels (1994) present parameters that could be used for proper analysis of ICT investment, which for sure are dependent on proper policy statement: without adequate resources committed to ICT, worthwhile project will fail; everyone should be involved in the evaluation of the financial benefits of an ICT project; portfolios of systems must be well integrated with the company's (libraries) overall business vision; business (Librarians) and IT managers must have clear idea of their roles and responsibilities in relation to ICT expenditure and all major stakeholders should be involved in planning ICT projects in order of priority

### Methodology

The research methodology adopted for the study is case study. For this kind of study which is meant to have a first hand view of the use of ICT policies in Nigerian academic and research libraries, case study research method seems to be the most suitable. The heterogeneous nature of the sample institutions is as a result of the need to provide basic information on ICT policy in public university libraries, private university libraries and research institute libraries. Ten sampled institutions were chosen for the study using convenient sampling technique (Asika, 1991). This is presented below:

S/N	INSTITUTION	OWNERSHIP	LOCATION
1	Kenneth Dike Library	University of Ibadan, Ibadan	Oyo State
2.	UNAAB Library	University of Agriculture, Abeokuta	Ogun State
3.	OOU Library	Olabisi Onabanjo University, Ago-Iwoye	Ogun State
4.	Center for Learning Resources	Covenant University, Canaan Land	Ogun State
5.	Babcock University Library	Babcock University, Ilishan	Ogun State
6.	Lead City University Library	Lead City University, Ibadan	Oyo State
7.	NISER Library	NISER, Ibadan	Oyo State
8.	CRIN Library	CRIN, Ibadan	Oyo State
9.	FRIN Library	FRIN, Ibadan	Oyo State
10.	NIHORT Library	NIHORT, Ibadan	Oyo State

Meanwhile, the Heads of ICT Units of the libraries studied provided the data for the study.

### Findings and Discussions

The respondents have had at least three years working experience. One of them has 26 years working experience. However, the mean years of working experience recorded is 12.5 years. The designations of the Librarians in charge of ICT Units in the libraries are Systems Librarian, Automation Librarian and Librarian, with grade specifications like Senior, Deputy or Acting Librarian.

Of the libraries studied, 1 started using ICT facilities 2 years ago, while another 1 started using ICT facilities 15 years ago. However, the mean year of the time all the libraries started using ICT facilities was calculated to be 7.3 years. This looks comparatively too recent.

Despite this, academic and research libraries have quite a good number of ICT facilities. Table 1 shows the range of ICT facilities available in the libraries studied:

**Table 1: ICT Facilities Available in the Case Study Academic and Research Libraries**

S/N	ICT FACILITIES	RESPONSE	
		Yes	No

		No.????? %		No.??????? %	
1.	Stand alone computers	10	100	-	-
2.	Printers	10	100??	-	-
3.	Internet Access	7	70	3	30
4.	Intranet (for file sharing)	6	60	4	40
5.	Network (for resource sharing and internet)	5	50	5	50
6.	Photocopiers	8	80	8	20
7.	V-sat (owned by your parent institution)	7	70	3	30
8.	CD-ROM resources and book compliments	9	90	1	10
9.	Audio-cassettes	4	40	6	60
10.	Video-cassettes	6	60	4	40
11.	Slide Resources	3	30	7	70
12.	Slide viewers	1	10	9	90
13.	Microforms	3	30	7	70
14.	Electronic journals	6	60	4	40
15.	Projectors	7	70	3	30
16.	Telephone	8	80	2	20
17.	Scanners	8	80	2	20

Table 1 shows that IT facilities like slide resources and microfilms are no more popular like videos, CD-ROM, projectors, computers, Internet, etc.? Table 1 also revealed that 3 of the 4 research institute libraries studied did not have Internet access.? This is quite surprising as Internet access remains one of the most dynamic and reliable source of research and scientific and technical information.?

Also, only 6 (60.0 %) of the ten libraries studied have ICT policies.? The other 4 (40.0 %) libraries indicated that they use alternatives which are not documented, although they all indicated that they have plans to develop ICT policies.? Those that have ICT policies indicated that they have had them for at least a year, while one of the libraries have had ICT policy for 12 years.? Therefore, the mean years of ICT policy implementation is: 4.8 years. ?This also showed that the use of ICT policies by academic and research libraries is quite recent and that they started investing on ICT facilities without functional policy statements.

In addition, 3 (50.0 %) of the 6 (100.0 %) libraries that have ICT policies indicated that the policies were fully linked with their parents institutions? development plan.? Only 1 (16.7 %) of the libraries indicated that ICT policy is partially linked with parent institution?s development plan.? Similarly, 3 (50.0 %) of the 6 (100.0 %) academic and research libraries indicated that their ICT policies are fully linked with their information management objectives.

Alternatives to ICT policy used by 4 of the 10 libraries studied that do not have ICT policies were evaluated and the results present in Table 2

**Table 2: Areas Covered in Alternative ICT Policy**

S/N	Areas Covered	No. of Libraries	Percentage (%)
1.	Purchase	2	50
2.	Staffing	1	25
3.	Training	1	25
4.	Access	4	100
5.	Ethical Issues	1	25
6.	Security	4	100
7.	Usage	3	75

All the libraries (4, 100.0 %) studied have indicated that access and security are included in the alternative they use.? 3 (75.0 %) indicated that ICT facility usage (definition and description of level of usage) are also included in the alternatives they use.? Staffing, training and ethical issues are included by only 1 of the libraries.? This may mean that these aspects of library management do no pose serious challenges to ICT facility management in the libraries.

It was further revealed that ICT policies in academic and research libraries are meant to augment

institutional development plans and information management objectives as shown in Table 3.?

**Table 3: Items Covered in Available ICT Policy**

S/N	POLICY ITEMS	YES		NO	
		No.	%	No.	%
1.	ICT Purchase and investment	2	33.3	4	66.7
2.	ICT department staffing and training	5	83.3	1	16.6
3.	ICT utilization by library users and training	6	100	-	-
4.	ICT utilization by staff and training	6	100	-	-
4.	ICT resources preservation	5	83.3	1	16.6
5.	Commercial exploitation of ICT facilities	4	66.7	2	33.3
6.	Damage management and strategy integration	4	66.7	2	33.3
7.	Research and evaluation of ICT facilities for proper management	3	50	3	50
8.	Access specification and management	4	66.7	2	33.3
9.	ICT provision and availability at different levels	5	83.3	1	16.6
10.	Commitment by leadership	4	66.7	2	33.3
12.	Ethical issues affecting use of ICTs	4	66.7	2	33.3
13.	Risk management	3	50.0	3	50.0
14.	Security issues surrounding use of ICTs	6	100	-	-
15.	Virus prevention and management	6	100	-	-

Interestingly, all the possible policy items listed for this study are included in the ICT policies of the 6 libraries that have ICT policies.? This indicated adequacy and comprehensiveness of ICT available policies.? However, items like staffing and staff training, library users training, commercial exploitation of ICT facilities, ICT provision and utilization at different levels, security issues and virus management were included by more libraries in their ICT policies.? ICT purchase and investment, research and evaluation and risk management were included by fewer libraries in their policies.? Despite this, major areas expected to be covered in functional ICT policies were adequately covered.

The extent to which ICT policies and the alternatives used by those libraries that do not have ICT policy affect ICT management was evaluated.? Table 4 presents the summary of the effect:

**Table 4: Effect of ICT Policy/Alternatives on ICT Management**

ICT Management Factors	Very Much		Much		Little		Not at all		No Response	
	No.	%	No.	%	No.	%	No.	%	No.	%
Use and preservation of library electronic resources	1	10	7	70	1	10	-	-	1	10
Use and preservation of non-electronic resources	-	-	7	70	-	-	1	10	2	20
Use and preservation of news papers	2	20	4	40	3	30	1	10	-	-
Use and preservation of journals	1	10	7	70	1	10	1	10	-	-
Use and preservation of Internet access	2	20	6	60	1	10	1	10	-	-
Use and preservation of online database access	3	30	7	70	-	-	-	-	-	-
Reference assistance	2	20	4	40	3	30	-	-	1	10
Reduction of technology divide between staff and users	1	10	8	80	1	10	-	-	-	-
Reserved resources	1	10	6	60	1	10	1	10	1	10
Availability and use of online journals	1	10	7	70	2	20	-	-	-	-
Catalogue system	1	10	7	70	2	20	-	-	-	-
Acquisition	1	10	5	50	4	40	-	-	-	-
Library administration	1	10	5	50	4	40	-	-	-	-

Reduction of unethical issues in ICT use	1	10	5	50	2	20	1	10	1	10
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Table 4 revealed a high extent of effect of ICT policies/alternatives used by those libraries that does not have ICT policy on basic library objectives.? Quite surprisingly, ICT policies/alternatives used have affected to a little extent acquisition and library administration.? Although, more than half of the libraries indicated that their policies/alternatives have affected their acquisition and library administration positively, the percentage of those that indicated otherwise is significant (almost half of them).? It is important to note the positive effect of ICT policies and alternatives used on day-to-day management of the libraries. The Table revealed that major information management activities receive adequate coordination through guidelines and procedures set out in ICT polices and alternative used.

Table 5: ICT Policy/Alternative Use Benefits

S/N	BENEFITS	Very Much		Much		Little		Not At All	
		No.	%	No.	%	No.	%	No.	%
1.	Saving of library financial resources spent on acquisition of ICT facilities.	2	20	6	60	2	20	-	-
2.	A more coordinated, qualitative and quantitative use of ICT facilities.	4	40	5	50	1	10	-	-
3.	Coordinate help from library staff to users.	5	50	5	50	-	-	-	-
4.	Improve attitude by users to maintenance and use of ICT facilities	1	10	8	80	1	10	-	-
5.	Coordinate access to ICT facilities.	2	20	8	80	1	10	-	-
6.	Justification of cost through improved benefit from the use of ICT????????? facilities	-	-	9	90	1	10	-	-
7.	Reduction of unethical acts during the use of ICT facilities	2	20	6	60	2	20	-	-

It has been further revealed that ICT policy/alternative use has helped the libraries save their financial resources they spend on acquisition of ICT facilities.? It has also helped them coordinate the use of ICT facilities in the libraries and also help define staff roles regarding ICT use.? It was also revealed that has helped them improve users attitude towards the maintenance of their ICT facilities, justify budget allocated to ICT facility purchase and maintenance and reduction of unethical practices.?

Table 6: Challenging Factors in ICT Use

S/N	Factors Presenting Challenges	YES		NO		No Response	
		No.	Per (%)	No.	Per (%)	No.	Per? (%)
1.	Competition for library management and administrative resources	7	70	3	30	-	-
2.	Access to ICTs	5	50	5	50	-	-
3.	Security issues	7	70	3	30	-	-
4.	Ethical issues	7	70	3	30	-	-
5.	Staffing issues	7	70	2	20	1	10
6.	Diversity of users and their needs	8	80	2	20	-	-
7.	Procedures	5	50	5	50	-	-
8.	Benefit maximization	9	90	1	10	-	-

Despite the positive revelation so far about ICT policies in academic and research libraries in Oyo State and Ogun State, Table 6 confirmed that the libraries still face major ICT management challenges.? ICT benefit maximization presents challenges to 9 (90.0 %) of the libraries because they expected to justify their ICT investment.? Diversity of users and their needs present another primary challenge the libraries face in terms of ICT procurement, management and utilization.? Other challenges are security, ethical and staffing issues.? All the factors listed presented challenges one way or the other to the libraries studied. By this, the study has established that the development of ICT policies and/or the review of existing ones in the libraries are imperative. ?

## Conclusion

It is quite interesting to know that Nigerian academic and research libraries have procured and made available a wide range of information and communication technologies to their users.? Coupled with this, the libraries also understand the importance of ICT policies, that is why those that do not have ICT policies indicated that they are on the verge of developing one. The fact that the study revealed that the implementation of ICTs in libraries studied is still quite recent, ICT policy being adopted are quite comprehensive although there are still challenges to be addressed.? In the near future, it is certain that academic and research libraries would have garnered required skills and resources that would enable them develop and implement policies that would aid investment, procurement and proper management of their ICT facilities.

## Recommendations

Since the study revealed that the academic and research libraries studied are quite aware of the importance of ICT policies and that they have policies that are adequate and comprehensive, it is important for them to review and reevaluate existing policies in order to be able to face the different challenges they still face in terms of ICT procurement and management.? It is imperative that these libraries that do not have ICT policies should also try to develop theirs.

There is need for all academic and research libraries to collaborate in their quest to develop functional ICT policies.? Such collaboration, if possible should be at the NLA level, so that more libraries would be involved.? This will also help develop standard ICT policy for academic and research libraries and will help rationalize problems of inadequacies and loop holes that are inherent in the current ICT policies.?

Lastly, those libraries that indicated that they are still developing their ICT policies should try as much as possible to speed up the processes leading to its conclusion.? Timely provision of ICT policies would have reduced the effect of the challenges revealed in the study.

## Reference

- Asika, N. (1991) *Research Methodology in the Behavioural Sciences*. Ikeja: Longman Nig. Plc. P. 194
- Bittel, L. R. (1989) *The McGraw Hill 36-Hour Management Course*. New York: McGraw Hill Publishing Company. P. 308.
- Daniel, N. C. (1994) *Information Technology: The Management Challenge*.? Workingham: Addison-Wesley Publishing Company. P. 188.
- Obajemuu, A. S., T. O. Ogunyade and E. Nwoye (2004) ?Assessment of CD-ROM Usage in Academic

and Research Libraries in Nigeria: A Case Study (1), 1 & @, pp. 17-24.

Ochai, A. (2000) ?Academic and Research Librarians Information Agenda (for Transforming it Libraries for Use) in the New Millennium.? Paper presented at the 2000 NLA Annual National Conference and AGM, 25-30, June, pp. 11-19.

Oni, F. A. (2004) ?Enhancing the Performance of Library Operations Through Approach Appropriate Information Technology? In: ***Technology for Information Management and Service: Modern Libraries and Information Center in Developing Countries***, E. C. Madu (ed.), Ibadan: Evi-Coleman Publications, pp. 95-110.

Oyelude, A. O. (2004) ?Academic Libraries: The State of the Art.?? In: ***Technology for Information Management and Service: Modern Libraries and Information Center in Developing Countries***, E. C. Madu (ed.), Ibadan: Evi-Coleman Publications, pp. 121-146.

Spiller, D. (1991) ***Book Selection: Principles and Practices***, 5<sup>th</sup> ed.. London: Library Association Publishing Ltd. P.213.

Strassner, J. C. (2004) ***Policy-Based Network Management: Solutions for the Next Generation***. Amsterdam: Elsevier. P. 516.

Uhegbu, A. (2001) ***The Information User: Issues and Themes***. Enugu: John Jacobs Classics Publishers Ltd., p. 152

Whitten, J. L., L. D. Bentley and K. C. Dittman (2001) ***Systems Analysis and Design Methods*** 5<sup>th</sup> ed. Boston: McGraw Hill. P. 724.